Best Management Practices for Stream Temperature

Where applicable, the BMP listed below was evaluated to determine if the BMP for stream temperature was implemented. The ***keyword(s)*** emphasized in the statement below corresponds with the label used in Table 10.

Evaluated BMP for Stream Temperature

- ***Adequate shade*** (≥ 75 percent pre-harvest shade) maintained on the stream channel to protect perennial / intermittent streams from adverse temperature fluctuations.

Surveyors qualitatively evaluated the BMP for stream temperature (Table 10) to determine if the BMP recommendation was followed and whether there was a risk to water quality. The Survey results are summarized in Table 10 as percentages.

Table 10. Implementation of the BMP for Stream Temperature by Region

BMP for Stream Temperature	BMP Implementation				Properly Implemented BMP & NO RISK to WQ				Improperly Implemented BMP & RISK to WQ			
	S	M	P	C	S	M	P	C	S	M	P	C
Adequate Shade*	90	71↓	96↑	92	100	100	100	100	28	22	0	50
	Higher % is Optimal				**Higher % is Optimal**				**Higher % is Not Optimal**			

S: Statewide **M:** Mountains **P:** Piedmont **C:** Coastal Plain

↑↓Indicates a change in implementation of ± 5 percent compared to the previous survey report.

*Also represents "Overall" values.

Note: Numeric values as percents.

BMP for Stream Temperature and Trout Waters

Data was collected on the BMP for stream temperature at 10 of the 38 SMZs located on streams classified as trout waters and was properly implemented eight times (80%). There were no observed risks to water quality associated with implementation or non-implementation of the BMP for stream temperature on trout waters.

Discussion – Stream Temperature

Implementation of the single BMP related to stream temperature was at or above 90 percent on Survey sites, with the exception of those sites in the Mountains region (71%). As noted in Section 3.2.1 of this report, only 10 percent of all SMZ's evaluated in this Survey were observed to have lost more than 25 percent of pre-harvest canopy cover as a result of the timber harvest.

Risk to water quality when the stream temperature BMP was not implemented was relatively low in comparison to other BMP categories, which may indicate that the BMP recommendation of maintaining greater than or equal to 75 percent pre-harvest shade is more than necessary. The current 2006 Forestry BMP Manual (to be assessed in future Surveys) has the following SMZ shade recommendation:

> "Maintain approximately half of the pre-harvest vegetation canopy cover within the SMZ in order to provide adequate shade" (NCDFR, 2006; page 45).

The results of this Survey appear to substantiate the BMP for stream temperature found in the 2006 Forestry BMP Manual.